

REMARKS

The rejection of the claims as obvious over Ando et al. is in error. According to *In re Herz*, the "consisting of essentially of ..." language in Applicants' claims limits the claims "to the specified materials or steps and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. Thus, applying *In re Herz* to Applicants' claim language "consisting essentially of HfO₂" limits the claim to a thin layer material of amorphous hafnium oxide which might include some minor impurities unintentionally present in the composition, which do not materially affect the basic and novel characteristics of the amorphous hafnium oxide. Ando et al. intentionally includes boron or silicon:

"wherein the outermost layer exposed to air is made of an amorphous oxide film composed essentially of an oxide containing at least one member selected from the group consisting of Zr, Ti, Hf, Sn, Ta and In and at least one member selected from the group consisting of B and Si," (underlining added for emphasis) (Ando et al., page 3, lines 3-5).

Note the presence of the conjunction "and". See also Ando et al. page 3, lines 24-27 and page 16, lines 26-30 for similar teachings. The point is, Ando et al. specifically instructs the reader to include boron or silicon along with the hafnium oxide. Thus, Ando et al. teaches away from Applicants' claimed invention which requires a thin layer material consisting essentially of amorphous hafnium oxide (see independent claims 14, 15 and 20).

In the rejection the Examiner states "Applicant (sic) has not clearly shown for the record that additional components would materially affect the claimed invention". Applicants are not required to prove a negative, particularly where the applied art Ando et al. specifically teaches that the presence of boron or silicon content causes an effect, namely affects refractive index. More specifically, Ando et al. teaches an increase of boron or silicon in the film decreases the refractive index. Thus, PPG Industries and Atlas Powder cited by the Examiner are not applicable.

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Moreover, Applicants' claims have other distinctions. Independent claims 14, 15 and 20 all require that the material or layer have a density less than 8 gm/cm³. Ando et al. makes no mention of density. Accordingly, Applicants' claims are also distinguished from Ando et al. on the basis of their specific density limitations.

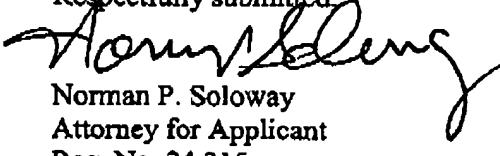
It is submitted that Ando et al. cannot be said to teach or render obvious Applicants' claimed invention, and the reconsideration of the rejection, and allowance of the claims are respectfully requested.

A Supplemental Information Disclosure Statement is being mailed contemporaneously herewith.

Having dealt with all the objections raised by the Examiner, the Application is believed to be in order for allowance. Early and favorable action are respectfully requested.

In the event there are any fee deficiencies or additional fees are payable, please charge them (or credit any overpayment) to our Deposit Account Number 08-1391.

Respectfully submitted,


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I hereby certify that this correspondence is being sent via facsimile to EXAMINER TAMRA DICUS of the United States Patent and Trademark Office at facsimile number (703) 872-9306, on April 8, 2005 from Tucson, Arizona.

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